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Title:

Content Delivery Network Using Differential Caching

Inventor: Docket: Sheet: Kasriel 155.1005.01 2 of 4



155.1005.01 Figure 2A

210

A client 110 is ready to make a request for a document 123 from a mirroring server 130 or an originating server 120 (depending upon which is closest).

211

The client 110 generates a request message 151 to the mirroring server 130 or the originating server 120 for the document 123. The request message 151 identifies the document 123 and requests that the mirroring server 130 or the originating server 120 send the document 123 to the client 110.

212

The decoder 114 forwards this request message 151 to the proxy encoder 140. In forwarding this example, the decoder 114 indicates that the client 110 is compatible with systems that provide delta encoding.

213

The proxy encoder server 140 fetches document 123 or a template 124 that corresponds to document 123 from either the originating server 120 or the mirroring server 130. Upon obtaining the content, the proxy encoder 140 updates the template 124 for the document 123.

214

The decoder 114 requests the document 123 from the proxy encoder server 140 by making a request, either immediately or at a later point in time, depending upon preferences set by the client operator 112.

215

The encoder proxy 140 sends the contents of the template 124, and a tag (also known as an "Etag") that corresponds to the version of the template.

216

The client 110 requests a document 123 by generating a request message 151. Similar to step 210 and 211, this is mediated by the decoder 114 so that the request is directed to the proxy encoder 140.

To Figure 2B



155.1005.01 Figure 2B

From Figure 2A



<u>217</u>

The proxy encoder 140 receives the request from the decoder 114. If the proxy encoder 140 determines that there is not a version of the template 124 in the database 142, the proxy encoder 140 obtains the document 123. If the template 124 is available, the proxy encoder 140 calculates the differences between the version of template 124 that is available in the database 142 and a newer version of the document 123 such as may be available from the originating server 120 or the mirroring server 130.



The proxy encoder 140 sends either the delta information 125 to the decoder 114 (that is, if the decoder 114 can accept delta information 125) or it assemble the document 123 from the template 124 and the delta 125 and transmit the newly assembled document to the client 125.

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155.1005.01 Fig. 3

310

A client 110 is ready to make a request for a document 123 from a mirroring server 130.

311

The client 110 generates a request message 151 to the mirroring server 130 for the document 123. The request message 151 identifies the document 123 and requests that the mirroring server 130 send the document 123 to the client 110.

312(a)

If the mirroring server 130 does not have the template information 124, it generates a request message 152 (shown in figure 1) to the originating server 120 for the template information 124. This step is not needed if the mirroring server 130 has the template information 124.

312(b)

The mirroring server 130 has the template information 124, the method proceeds with the next step.

313

The mirroring server 130 generates a response message 153 (shown in figure 1) to the client 110 with the template information 124.

314

The client 110 (or the mirroring server 130, if the system 100 is so configured) generates a delta request message 154 to the originating server 120 for the delta information 125. If the client 110 generates the delta request message 154, the client 110 delta receives. the information message 155 from the originating server 120. If the mirroring server 130 generates the delta request message 154, the mirroring server 130 receives the delta information message 155 from the originating server 120.

315

The client 110 integrates the template 124 information and the delta a unified information 125 into 123 presentation. document for Integration of the template information 124 and the delta information 125 is further described in the incorporated disclosures.

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